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Food supply fluctuations constrain group sizes of kangaroos and in turn shape their vigilance and feeding strategies

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Titre	Food supply fluctuations constrain group sizes of kangaroos and in turn shape their vigilance and feeding strategies
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Auteur	Favreau, François-René [1], Goldizen, Anne W [2], Fritz, Hervé [3], Pays, Olivier [4]
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Résumé en anglais	Seasonal variation in food resources and predation risk imposes major constraints on herbivores, which must adjust their behaviour to maximize their energy intake and survival. In seasonally driven landscapes, it is not yet clear what the primary drivers are that shape seasonal variation in vigilance and feeding rates. These rates have been shown to vary in relation to various environmental, social and individual factors, but many of these factors also vary through the year, due to variation in food supply. We studied wild female eastern grey kangaroos, Macropus giganteus, under low predation risk over a year to investigate whether vigilance and feeding rates varied seasonally and whether this variation was mainly driven by food quantity or quality, group size or individuals' reproductive states. Both vigilance and feeding rates varied seasonally, as did food quantity and quality and group size. Vigilance, including antipredator (head orientation away from the group) and exclusive (i.e. vigilance without chewing) vigilance, decreased and feeding rate increased with increasing group size. However, because group size increased with food quality and quantity, food resources emerged as the primary driver of variation in behavioural strategies. These results suggest that the observed effects of group size on the trade-off between food acquisition and safety are in fact corollaries of the seasonal variation in food supply in our study system, in which the risk of predation on adults is low, and hence are by-products of the foraging choices made by kangaroos in response to the dynamics of the quantity and quality of food.
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